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ABSTRACT

Cognitive profile analysis of 14 rural case studies follows precisely the distribution curve found in comparison groups, in terms of the number of adults falling into each of three profile types. Regardless of age, approximately 10% are found in Type 1 and 3 categories and 80% within the Type 2 profile category (Type 1 is significantly associated with high achievement levels in academic performance, Type 2 is significantly associated with average academic performance, and Type 3 is significantly associated with low achievement levels). Given opportunity for academic experiences, these rural adults would perform as well as any other group of students in terms of achievement. Among several factors which must be taken into consideration for an adult population in general and a rural population in particular are: any assumption that adults are not capable of profiting from formal educational settings is fallacious, except for that approximately 10% of the population whose cognitive profiles militate against achievement; and, for the rural adult population, regardless of the content, mode of presentation, or level of sophistication, the information must be brought to these students in their local communities and at times which do not severely disrupt their normal daily activities. Three profile examples are included. (BRR)

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COGNITIVE PROFILES: EXAMINING SELF-PLANNED LEARNING AND THINKING STYLES

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Research in cognitive dimensions, variously referred to as style or control, has reported correlations between an individual's extreme position on a specific cognitive style continuum (for example, field dependence-independence) and the individual's personality traits (for example, articulated life goal, self-concept) or performance of intellectual tasks (Letteri, 1980). These cognitive dimensions would appear to be the basis for how an individual perceives stimulus situations and items and, therefore, determine what the individual perceives. They indicate how the individual processes the information thus perceived and, therefore, determines what the individual learns (knowledge, skills, values). As a result, the individual's reactions, behavior, and performance would partially be predicted on that knowledge base (Letteri, 1976).

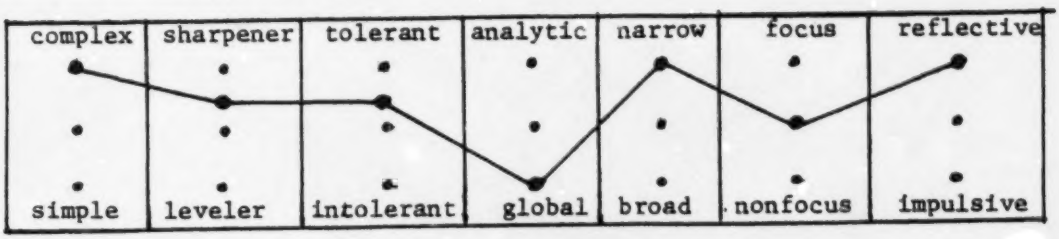
However, a unidimensional approach of "relating one or two measures of cognitive control to other variables" does not provide the investigator with a complete picture of the cognitive processes being employed in a task. Work at the Center for Cognitive Studies, University of Vermont, has focused attention on an individual's Cognitive Profile; that is, the position of an individual across seven cognitive dimension continuums placed on a diagram. The seven dimensions include: field dependence/independence (Witkin, et al., 1962), scanning (Gardner, 1962), breadth of categorization (Kagan and Wallach, 1964), cognitive complexity (Bieri, et al., 1966), reflective/impulsive (Kagan, 1965), sharpening/leveling (Gardner, et al., 1959), and tolerance for ambiguous information (Klein, et al., 1963). This cognitive profile provides an organizing principle by which to study and understand the interactive relationships between these dimensions and their combined impact on performance.

The Type 1 Cognitive Profile, significantly ($p < .05$) associated with high achievement levels in academic performance as measured by standardized tests, indicates a subject articulated in a majority of the following dimensions; analytical,

focuser, narrow, complex, reflective, sharpener, tolerant. The Type 3 Cognitive Profile, significantly ($p < .05$) associated with low achievement levels in academic performance as measured by standardized tests, indicates a subject articulated in a majority of the following dimensions: global, non-focuser, broad, simple, impulsive, leveler, intolerant. The Type 2 Cognitive Profile, significantly associated ($p < .05$) with average academic performance, is either a nonarticulated profile, that is, not articulated at either extreme of the seven cognitive dimensions, or is a mixed profile indicated as an inconsistent pattern of articulation with no majority matching a Type 1 or Type 3 Cognitive Profile (Letteri, 1980).

In this particular research project, Cognitive Profile measurements were administered to the adults in a rural setting. Diagrams, indicating a specific profile for each adult, were drawn up from individual results on the instruments. A content analysis was performed on other available information from each person, specifically the Personal Mode of Thinking Questionnaires. The results of this analysis were then compared to articulations on the Cognitive Profile in order to substantiate and cross-verify the results. Let us look at three actual examples from these profiles and the partial analysis.

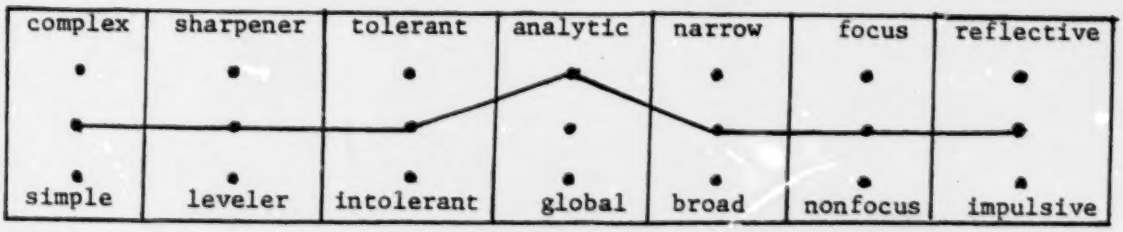
COGNITIVE PROFILE Carrie Simpson



Carrie Simpson's total profile indicates a person who has the skills for above average success in related tasks. She takes a sufficient amount of time to do a comparative analysis between a given problem and prior problems (corresponding to a Reflective articulation on the Cognitive Profile). "I don't give up - I track something down." She is able to define the problem accurately utilizing discrete

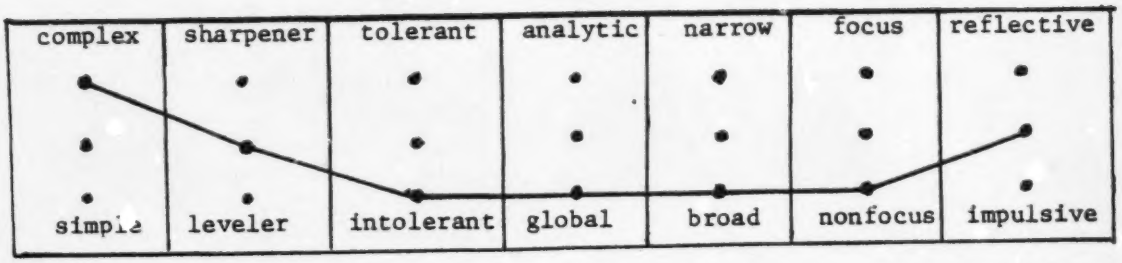
categories for storage and retrieval (narrow articulation). In her self description, she gives a lengthy account of being a perfectionist and how her accomplishments are never quite satisfying. Her criteria is so narrow that it never quite fits. "Somebody else will come in and say, 'Isn't that nice,' but to me, well, it's a little bit off here and there...". She has available in her cognitive structure many and varied categories by which to categorize and associate new data (complex articulation). This is illustrated in her multidimensional description of herself - "hard worker, happy, been hurt, doesn't cling, friendly, likes animals, perfectionist," In her words: "I certainly have a lot of interests, I always have." Carrie Simpson's profile indicates a degree of inner control over accomplishments and thought processes. "No, I have to think it myself. I have to be satisfied with my accomplishments myself before I can feel good about it," She usually will experience success in performance and much of her learning can be self-directed.

COGNITIVE PROFILE Mr. Rock



Mr. Rock is representative of a Type 2 Cognitive Profile. There is a high degree of inconsistency and variability in his performance. "Well, I think I'm involved with so many different things that it's hard to separate them out. I guess I'm systematic but unorderly." His profile permits little conscious control over storage and retrieval of information. "I suppose it's like a computer - today's computer. You know, they keep putting information into them and you press the right button sometime in the future and the things come back the way - well, it's an accumulation of what they put in."

COGNITIVE PROFILE Mrs. Moss



Mrs. Moss illustrates the performance of a Type 3 Cognitive Profile. Her skills are not developed sufficiently to allow for a high degree of performance or satisfaction. Her categorization skills demonstrate the need of direction for proper identification and recall. She might experience difficulty sorting out individual items and feels much more comfortable experiencing things as a whole.

The Cognitive Profile Analysis of the 14 case studies follow precisely the distribution curve found in comparison groups, in terms of the number of adults falling into each of the three profile types. Regardless of age, approximately 10% are found in Type 1 and 3 categories and 80% within the Type 2 profile category. Based on this distribution and the relationship which does exist between Cognitive Profile types and areas such as academic achievement, occupational success and satisfaction we should find no differences between this specific rural adult population and a cross section of any other adult population. In other words, given opportunity for academic experiences, these rural adults would perform as well as any other group of students in terms of achievement. There are, however, several factors which must be taken into consideration for an adult population in general and rural population in particular:

1. Any assumption that adults are not capable of profiting from, and succeeding in, formal educational settings is fallacious, except for that approximately 10% of the population whose Cognitive Profiles mitigate against achievement. Therefore, this specific sample of adults could be expected to achieve the normal range of success expected of any population in formal educational

settings.

2. Any assumption that the content, level of sophistication, or mode of presentation for any educational project must be at a reduced level for adults in general or this population in particular is likewise fallacious.

3. A third factor having direct implications for the first two, is the assumption that this specific population of adults or any other population of learners can be introduced to new or different information without first taking into consideration the individual learners cognitive structure. By cognitive structure I am referring to a stable, hierarchically organized body of prior knowledge that is substantively relatable to the new information and can serve as the anchoring ideas for the proper assimilation of the new information. This factor is not a limitation on what can be taught, but rather is an element of instructional design which must be attended to in order to facilitate learning for this or any other population of students.

4. A fourth factor is related to the delivery system of any educational experience for a rural adult population. Regardless of the content or the mode of presentation or the level of sophistication, the information must be brought to these students in their local communities and at times which do not severely disrupt their normal daily activities.

If the above factors are attended to in the design and implementation of learning experiences, be they sewing or physics, we can expect the rural adults in this sample to perform and profit from these experiences within the normal range of expectation for a similar population regardless of age or formality of experience.